

CLAIMS

10

1. Echogenic and/or radio-opaque device adapted to permit carrying out removals from genital organs for analysis, such as removals of physiological liquids or fragments of the internal wall of the male or female genital organs, more particularly feminine genital organs, particularly at the level of the neck of the uterus, or the uterine cavity, or adapted to permit the transfer of products such as those selected from gametes, or embryos, or active principals, or radiological products, into female genital organs, particularly into the above-mentioned female genital organs, said device being characterized in that it comprises:

25

- a catheter for the above-mentioned removal or transfer, to be inserted as the case may be into an introduction catheter serving as a guide, said removal or transfer catheter being of a length greater than that of the introduction catheter, and comprising parallel channels:

30

• a first channel (or opening) opens into its distal portion at the level of the usable orifice for the removal or transfer, and opens into its proximal portion so as to be able to be connected to a suction means such as a syringe,

• a second closed channel in which is disposed an echogenic and/or radio-opaque material at the height of said usable orifice,

said catheter being as the case may be such that the usable orifice of the first channel is closed so as to permit the use of said device in the field of tests for the introduction of catheters into the uterus, and, as the case may be, to determine the morphology of the neck of the uterus and of the uterine cavity,

- or a removal catheter comprising a single channel open in its distal portion at the level of the usable orifice, this latter being adapted as the case may be to constitute a lateral opening, or several lateral openings, within which circulates a piston connected to a gripping member (permitting the aspiration of said liquids or physiological fragments), the piston comprising an echogenic and/or radio-opaque material and being located at the height of said usable orifice at the time of introduction of the device into the genital organs,

said echogenic and/or radio-opaque material permitting visualizing by medical imagery, particularly by echography or radiography, the position of the usable orifice of said device for removal from or transfer into said organs.

2. Device according to claim 1, characterized in that the echogenic and/or radio-opaque material is selected from:

- substances incorporatable in plastic material constituting the device, particularly barium salts, or bismuth salts, or tungsten powder,

- films of echogenic and/or radio-opaque polymer, covering all or a portion of the above-mentioned devices, such as a coating of polytetrafluoroethylene (PTFE),

- metals, particularly those based on stainless steel, or gold or copper, as the case may be covered with a film of echogenic polymers such as PTFE, or whose surface is modified by any suitable technique.

3. Device according to claim 1 or 2, for the removal from genital organs, said device corresponding to a removal catheter comprising:

* a channel corresponding to a cylindrical tube whose distal end (farthest from the manipulator) is:

- either open and constituting the usable opening for the removal of physiological liquids,

- or closed except for at least one so-called suction hole, as the case may be located in a lateral position of the distal end of said catheter, and constituting the usable orifice for removal of fragments of the walls of genital organs,

- * a sealed piston adapted to move in said cylindrical tube, and connected to the distal end of a rod whose proximal end is preferably provided with a gripping member, the distal end of the rod comprising the piston, or the piston itself, comprising an echogenic and/or radio-opaque material, said material being located at the height of said usable orifice at the time of introduction of the device (piston pressed and maintained at the height of said orifice) at the level of the neck of the uterus and/or in the uterine cavity.

4. Device according to one of claims 1 to 3, characterized in that the echogenic and/or radio-opaque material is present in the form of a ring gripped, glued or held by overmolding, or any other means, before, and/or after, and/or in the piston.

5. Device for the removal or transfer according to claim 1 or 2, corresponding to a catheter comprising:

* a first channel corresponding to a cylindrical tube whose proximal end is adapted to be connected to a syringe permitting suction of the removed materials, or the transfer of the products that it contains, the distal end of this channel being such that it comprises two opposite lateral openings as the usable orifice for transfer, or being open and constituting the usable orifice for the transfer or removal,

* a second channel corresponding to a cylindrical tube whose proximal and distal ends are closed, and in which is disposed an echogenic and/or radio-opaque material at the height of said usable orifice.

6. Device according to claim 1 or 2, for practicing test methods for the introduction of catheters into the uterus and, as the case may be, analysis of the morphology of the neck and of the uterine cavity, said device corresponding to a catheter comprising:

* a first channel corresponding to a cylindrical tube whose proximal end is open or closed, and whose distal end is closed,

* a second channel corresponding to a cylindrical tube whose proximal and distal ends are closed, and in which is disposed is an echogenic and/or radio-opaque material at the height of said distal end.